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**MORPHOLOGICAL VARIATION IN NATURAL INFECTIONS OF
OCHORISTICA BIVITELLOBATA LOEWEN, 1940
(CESTOIDEA: ANOPLOCEPHALIDAE)**

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Three specimens of *Cnemidophorus sexlineatus*, the six-lined whiptail lizard, collected in the vicinity of Guide Rock and Arapahoe, Nebraska on June 20-21, 1974 were found to be infected with one, three, and fifteen specimens of *Oochoristica bivitellobata* Loewen, 1940. These worms exhibited variations in morphology not previously reported for the species. Worms were relaxed and killed in ice-water, fixed with AFA, stored in 70% ethanol, stained with Mayer's carmalum or Mayer's hematoxylin, and mounted in Canada balsam for study as whole mounts. Representative specimens have been deposited with the Harold W. Manter Laboratory, University of Nebraska State Museum. Measurements are in microns unless otherwise stated.

Family Anoplocephalidae Cholodkovsky, 1902
Oochoristica bivitellobata Loewen, 1940

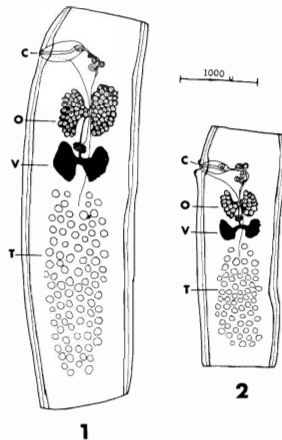


Figure 1. *Oochoristica bivitellobata* Loewen, 1940. (1) Mature proglottid from worm in single infection. (2) Mature proglottid from worm in multiple infection. C=cirrus sac; O=ovary; V=vitellaria; T=testes.

Diagnosis (measurements based on eleven mature worms; previously reported ranges in parentheses): Length of strobila 28 to 200 mm. (15 to 150 mm.), composed of no more than 21 proglottids complete. Scolex simple, 450 to 700 long (396); neck 450 to 740 long (425 to 460); suckers 139 to 190 in diameter (115 to 178). Mature proglottids 1.8 to 4.3 mm. long (1.84 to 2.85) and 0.6 to 1.2 mm. wide (0.45 to 0.84); testes 50 to 125 (48 to 106), in median mass occupying posterior half of mature proglottid; genital pore in anterior fifth of proglottid, irregularly alternating; cirrus sac 164 to 410 long (138 to 164) and 89 to 123 wide (57 to 115), containing essentially straight cirrus; ratio of cirrus sac length to proglottid width 1:2 (1:2); vas deferens coiled posteromedian to cirrus sac; ovary alate, lobed, posterior to vas deferens, 240 to 560 wide (198 to 280); vitellaria two compact, irregular lobes between ovary and testes, 260 to 540 wide ("nearly as wide as ovarian lobes"), reservoir median to alae; ootype between ovary and vitellaria, Mehlis' gland prominent. Gravid proglottids 4.7 to 14 mm. long (5.85 to 13) and 0.8 to 1.5 mm. wide (0.5 to 1.32), containing numerous eggs each contained in a capsule in the parenchyma; diameter of eggs 53 (53).

Oochoristica bivitellobata was described from Kansas in *Cnemidophorus sexlineatus* (Loewen, 1940, Trans. Am. Micr. Soc. 59:511-518). Other reports include Utah in *C. t. tigris* (Grundmann, 1958, J. Parasit. 45:394); California and Mexico in *C. hyperythrus* (Bostic, 1965, Southwest Nat. 10:313); Nevada in *C. tigris* (Babero and Matthias, 1967, Trans. Am. Micr. Soc. 86:173-177); and South Dakota in *C. sexlineatus* (Dyer, 1971, Proc. Helm. Soc. Wash. 38:256). Nebraska represents a new distribution record for *O. bivitellobata*. No morphological data has been reported for this species other than that contained in the original description. Our data greatly extends the range of variation in size for the scolex and suckers, mature and gravid proglottids, cirrus sac, ovary and vitellaria, and the range in variation for the number of testes which may be present in a single proglottid. In all cases, the largest measurements are from a worm which was the only cestode present in the host lizard. It has been well documented (Pavlovski and Gnezdilov, 1949, Dokl. Akad. Nauk. SSSR 6:755-758; Pavlovski and Gnezdilov, 1953, Zool. Zh. 32:165-174) that the size of individual tapeworms is inversely proportional to the number of worms present. This "crowding effect" phenomenon is reported in natural infections of *O. bivitellobata* for the first time.